

Rules and Regulations
Winchester Water Department
Winchester, NH 03470

Board of Selectmen

Water Department

Gus Ruth, chairman

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(This cover page with signatures is available in
the Water Department's office.)

Gerald Hastings

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1.0 GENERAL

A. No person shall connect any service pipe to the mains or any distribution piping of the Town of Winchester except by approval of the Winchester Water Department and the Board of Selectmen.

B. All locations where system apparatus is installed must be accessible at all reasonable times to the Water Department for inspection.

C. No alterations shall be made to water services, between the water main and water meter without the prior knowledge and approval of the Water Department. These alterations will be required to meet current rules and regulations of the Winchester Water Department.

D. The Town of Winchester shall not, in any way or under any circumstances, be held liable or responsible for any loss or damage from any excess or deficiency in the pressure of the system. The Water Department will undertake to use all reasonable care and diligence to avoid interruptions of service but cannot and does not guarantee that such may not occur.

E. The Water Department shall not be responsible for damages caused by dirty water resulting from the opening or closing of any gate valves, water main breaks, repairs or maintenance to the system, use of hydrants for routine or emergency use.

F. The Water Department shall, when conditions allow, attempt to notify consumers, in areas to be affected, of any work or disruptions of service. Emergencies cannot be anticipated and therefore notice may not always be given.

G. The Water Department reserves the right to shut off water for the purpose of making alterations, additions or repairs.

H. A water service may be shut off from any taker for non-compliance with Water Department rules and regulations or for non-payment of bills and related debts.

I. When water has been shut off because of disregard of the rules or non-payment of fees, it will not be turned on until the Water Department is satisfied that there will be no further cause of complaint and after payment of all applicable fees.

J. The Fire Department shall have control of hydrants during a working fire and shall immediately notify the Water Department of hydrant use. In no other case will any person be allowed to operate hydrants or other water system apparatus without the prior permission of the Water Department.

K. To eliminate the possibility of cross connection, service pipes or fixtures of any description that are to be connected to the mains of the Water Department shall not, under any circumstances, be connected with any other source of water.

L. All water services and sprinkler lines will have an approved backflow device installed.

M. No non-emergency water construction shall be commenced between October 31st and May 1st. Emergency construction may be permitted with approval of the Water Department.

N. Any person, corporation or other entity who damages any part of the water system will be held liable for all costs incurred to repair said damage.

O. No person shall park a vehicle, place or caused to be placed, any building materials, trash, landscaping materials, earth, snow or other obstructions which restricts, reduces, delays or denies use of a hydrant by the Water Department or Fire Department.

P. If any water customer permits another who is not a patron of the Water Department to obtain a supply of water, the customer in violation will be charged triple the regular rate for a full quarter or longer if said violation persists.

Q. No person shall turn on or off, or otherwise tamper or operate any curb stop or gate valve without consent of the Water Department.

R. No person shall fill a swimming pool, skating rink, or pond from a fire hydrant unless authorized and supervised by the Water Department.

S. It is the belief of the Town of Winchester that these regulations comply with current State of New Hampshire Department of Environmental Services guidelines for public water systems. However, should there be any conflict between D.E.S. guidelines and these regulations, the more stringent regulation must be followed.

2.0 METERS

A. The property owner shall provide a suitable location for water meter installation. This location shall provide for ready access to the water meter for installation and servicing. In structures where a suitable indoor location for the water meter is unobtainable, a meter pit shall be installed at the owner's expense. When manufactured housing or any other structure without a basement, is located on a site that is or will be connected to the Winchester Water System, a meter pit will be required. When an existing structure is replaced with said type of structure, a meter pit will be installed prior to having water turned on to the new structure.

B. Water meters shall be sized by the Water Department. All 5/8 x 3/4 inch meters and accessories will be provided by the Water Department. If a meter larger than 5/8 x 3/4 inch is required, the expense of purchasing the appropriate sized meter, backflow, and accessories will be with the property owner.

C. All 5/8 x 3/4 inch water meters, backflows, and accessory equipment are the property of the Water Department.

D. It shall be the responsibility of every owner of property whereon a water meter is installed to take all necessary precautions to prevent damage to such meter, including freezing. Before closing and draining off the water from any building wherein a water meter is installed, the owner shall give five days notice to the Water Department, and arrange to have the water meter removed. The owner shall be liable for all damage to water meters and associated equipment provided by the Water Department resulting from neglect or failure to give notice.

3.0 SERVICE CONNECTIONS

A. Each application for water is to be considered on its own merits. The Winchester Water Department reserves the right to deny any application for the use that they determine may jeopardize the safety or health of current water users, or will create an unsafe demand on the water system, or have negative impact on the volume or quality or pressure on existing customers.

B. The Water Department shall be responsible for the water main tap and water service construction between the water main and property line including curb stop. The Winchester Water Department will make 3/4" and 1" taps for water services, for services larger than 1" the owner shall hire a qualified contractor to make the tap and to install the service to the curb stop. This work shall be done under the direct supervision of the Water Department. The property owner shall be responsible for the excavation, backfilling, road replacement, and permits and police details associated with installing the water service. Water services longer than 300 feet shall be required to be 1" or larger and have an approved water meter pit at the property line. No direct taps will be allowed except into ductile iron pipe. All other makes of pipe will have an approved tapping sleeve or saddle. The Water Department will witness and inspect all services prior to backfilling.

C. The applicant/owner shall be responsible for and bear all costs associated with connecting and maintaining the water service from curb stop to the facility served.

D. Prior to water service construction the applicant shall complete a water service application, pay to the Water Department all applicable fees, submit plans/drawings of planned construction, consult with the Water Department staff to coordinate all details pertaining to water service construction. A minimum of one weeks notice is required prior to commencing construction.

E. Water service piping must be installed with a minimum of 5-foot depth of cover at least 10 feet from and 18 inches above subsurface sewage disposal systems. If a 5-foot depth of bury cannot be achieved, then approved methods for insulating the service must be installed. It is highly recommended that all new services, and those being upgraded, where they cross under a roadway shall be insulated with a minimum of 2" of rigid foam insulation. Services longer than 300 feet will be required to install a meter pit at a location approved by the Water Department.

F. Whenever water service piping must cross sewer lines, both pipes shall be constructed of class 150 minimum pressure pipes and be tested to assure water tightness. Sleeving of both water and sewer lines maybe done but only if the ends of the sleeving extends a minimum of 10 feet from where the lines cross. All efforts shall be made to minimize the number of pipe connections within this area.

G. Water service piping shall not be backfilled until inspected and approved by the Water Department. This includes all work done from the street to the structure being served.

H. A service connection shall consist of a tapping sleeve or saddle, corporation stop, curb stop, curb box, copper or CTS tubing, meter and backflow device. The corporation stop and curb stop shall have a full diameter port, with Teflon seat, bronze or stainless ball, and quarter turn open close control. Curb stop valves shall not have drains and will open left.

I. Corporation stops shall be all bronze, or all brass construction with lapped bronze or stainless ball and ground key. Outlet connections shall be compression type suitable for copper tubing service. All stops shall be ball valves.

J. The curb box shall be of the telescoping type, designed so that vehicle loads are not transmitted to the curb stop. The box shall be tar-based enamel coated inside and out. A 2 1/2" Buffalo style curb box or equivalent shall be used.

K. Service piping shall be type K annealed copper tubing or 200-psi CTS (copper tube size) plastic tubing suitable for underground and drinking water use. Service lines between the water main and the curb stop will be copper. All new services shall be a minimum of 1" diameter. Repairs to existing services not of 1" diameter will be allowed without the need to upgrade the service to 1" diameter piping/tubing.

L. A 4-foot minimum horizontal separation shall be maintained between water service piping and all underground utilities. Water service lines shall be kept a minimum of 10 feet away from any septic leach field.

M. To eliminate the possibility of cross-connections, water service piping or fixtures of any description that are connected to the Winchester Water Department distribution system shall not, under any circumstances, be connected with any other source of water supply.

N. Water shall not be left running to prevent freezing without prior authorization of the Water Department. Services that have a history of reoccurring freezing shall be repaired/replaced/relocated to prevent freezing. Service lines on the house side of the curb stop are the responsibility of the property owner; service lines on the street side of the curb stop are the responsibility of the Winchester Water Department.

O. Booster pumps are not permitted on any water service without a D.E.S approved backflow located before the pump. A certified backflow tester shall test this backflow device twice per year.

P. Each individual dwelling, business, condo, and apartment house must have a separate connection and curb stop to the main. Services will not be shared with another property or water user.

Q. Each sprinkler system must have a separate line from domestic use and shall have an appropriate backflow device installed.

4.0 DISTRIBUTION SYSTEM MAIN EXTENSIONS

A. The Board of Selectmen of the Town of Winchester may allow for the construction of new mains, including replacement or enlargement.

B. Construction costs for all other water main extensions or up sizing shall be borne by the parties requesting an extension or increased water availability.

C. When up-sizing of water mains is required to meet requests and needs by new customers or developers, the Water Department with the Town of Winchester may at their sole discretion elect to compensate the applicant for such differences in material costs. Cost differential shall be determined as a result of competitive bidding to provide actual cost differences between 8-inch pipe and fittings and the pipe sizing as required by the Water Department. No cost differential shall be allowed for construction or labor costs. The applicant shall pay all taxes and fees.

D. Upon completion of construction, testing, disinfection, receipt of as-built plans and official charging of the mains, they shall become the property of the Winchester Water Department.

E. In the past, individual property owners have been allowed to install private mains and services. Permission to use and connection of additional services to these private mains shall remain the responsibility of the Water Department. No new private mains shall be connected to the Winchester Water Department nor will there be allowed any new services connected to private mains.

F. Replacement and or enlargement of private water mains when and if required shall be at the expense of the parties served. When private mains have been replaced in conformity with the Water Department requirements they shall become the property of and be maintained by the Water Department.

5.0 DESIGN

A. Water main diameter. The minimum size of water main for providing fire protection, consumption for both domestic and commercial use shall be 8 inches in diameter. Larger size mains shall be provided where necessary to allow the withdrawal of the required fire flow while maintaining the minimum residual pressure of 20 PSI at ground level at all points in the distribution system under all conditions of flow.

B. Dead ends shall be minimized by looping of all mains whenever practical. Dead end mains in excess of 600 feet shall not be allowed.

C. Small mains. Any departure from minimum pipe size requirements must be justified by hydraulic analysis, future water use, and be considered only in special circumstances with the approval of the Water Department.

D. Cross connections and interconnections. There shall be no connections between a public water supply and any non-potable water source unless the public water system is protected by a method meeting the requirements of the State of New Hampshire Department of Environmental Services Rules and Regulations relative to cross connection control.

E. Separation of Water Mains and Underground Utilities. Other utilities crossing water mains shall cross at or near a perpendicular. There shall be an 8 inch minimum clear vertical dimension and a 4 foot minimum clear horizontal dimension each side between water mains and any other utility pipe, conduit or wire.

F. Valve Locations and Spacing. Sufficient valves shall be provided on water mains so that inconvenience and sanitary hazards will be minimized during repairs. Main valves shall be located at not more than 700-foot intervals. Water main intersections shall be valved each way.

G. Hydrant Location and Spacing. Hydrants shall be provided at each street intersection and at intermediate points between intersections. Hydrant interval shall not be greater than 700 feet. Hydrants shall be located so that no structure is situated more than 500 feet from a hydrant as measured along the street and driveway. The hydrant lead shall be a minimum of 6 inches in diameter. Auxiliary valves shall be installed in all hydrant leads 4 feet from the hydrant. New hydrants shall be placed a minimum of 6 feet but not more than 10' from the edge of the road surface. These dimensions may be adjusted with prior approval of the Water Department.

H. Where dead-end mains occur they shall be provided with a fire hydrant if flow and pressure are sufficient, or with an approved flushing device. No flushing device shall be directly connected to any sewer. No water service shall be connected beyond the end hydrant.

I. Air Relief Valves. At high points in the water mains where air can accumulate, provision shall be made to remove the air by means of hydrants or air relief valves. Automatic air relief valves shall not be used in situations where flooding of the manhole or chamber may occur.

J. Surface Water Crossing. Surface water crossings, whether over or under water, present special problems.

1. Above Water Crossing: The pipe shall be adequately supported and anchored, protected from damage and freezing, and accessible for repair or replacement.

2. Underwater Crossing. A minimum earth cover of 4 feet shall be provided over the pipe. When crossing watercourses that are greater than 15 feet in width, the following shall be provided. The pipe shall be of special construction, ductile, cement lined, with flexible watertight joints. Pipe shall have restraints at all underwater connections. Valves shall be provided at both ends of the water crossing to allow that section of main to be isolated for testing or repair. The valves shall be easily accessible, and not subject to flooding. Sample/pressure test taps shall be installed near the main valves for testing of the underwater crossing.

3. HDPE (water main grade plastic pipe) may be directionally bored under a body of water. Installation of valves shall be the same specifications as applied to ductile iron pipe.

K. Cover. All water mains shall have a minimum of 5 feet of cover as measured from the top of the pipe.

L. Easements. Water main easements shall have a minimum permanent width of 20 feet. There shall also be work easements of an additional 20-foot width.

6.0 MATERIAL

A. Pipe for Water Mains.

1. All proposed water main and water service piping plans must be approved by the Water Department prior to construction.

2. The Water Department will be notified at least 1 week prior to commencing construction.

3. The contractor shall furnish, lay, join, test and disinfect all pressure pipe, fittings, and appurtenant materials and equipment, all as indicated on the drawings and as herein specified.

4. All joints on bends, gates and castings shall be mechanical joint. All mechanical joints shall use approved retaining system, IE: Mega-Lug, Grip Ring, or equivalent.
5. Pipe shall be ductile iron super bell-tite joint, Class 52, double cement lined, bituminous coated, 18-20 foot lengths.
6. Unless otherwise indicated or specified, ductile iron pipe shall be at least Class 52 thickness for pipe 12 inches in diameter and smaller and at least Class 50 thickness for pipe larger than 12 inches in diameter.
7. Pipe for use with sleeve type couplings shall be as specified above except that the ends shall be plain (without bells or beads). The ends shall be cast or machined at right angles to the axis.
8. All pipe and fittings shall be tested at the foundry as required by the standard specifications to which material is manufactured. The contractor shall furnish upon request to the Water Department sworn certificates of such tests.

B. Valves. Gate valves open left. Gate valves for pipe up to and including 12-inch diameter shall be resilient seat type valve designed for underground use. Each buried valve shall be provided with a valve box. Valve boxes shall be of rough, even-grained cast iron and of the adjustable, slip, heavy-pattern type. They shall be designed and constructed to prevent the direct transmission of traffic loads to the pipe or valve. The upper or sliding section of the box shall be provided with a flange having sufficient bearing area to prevent undue settlement. The lower section of the box shall be designed to enclose the operating nut and stuffing box of the valve and shall be adjustable through at least 6 inches vertically without reduction of the lap between the sections to less than 4 inches.

C. Fire Hydrants. Hydrants open left.

1. Hydrants shall meet or exceed all aspects of AWWA C-502 for dry barrel fire hydrants in its latest revision.
2. Hydrant shall open left, with open direction arrow on bonnet.
3. Minimum hydrant bury shall be 5 1/2 feet.
4. Hydrant paint and color shall be Rustoleum Industrial Enamel Regal Red or equivalent.
5. Main valve shall be 5 1/4 inches minimum
6. Hydrant shall have two 2 1/2 inch hose nozzles 180 degrees apart and one 4 1/2 inch steamer nozzle all national standard thread. Operating nut shall be of the pentagon type.
7. Hydrant shall be traffic type connected at ground line by frangible cast coupling. Breakable bolts are not acceptable.
8. Hydrant shall have 2 drains 180 degrees apart and shall be bronzed bushed.
9. Elbow shall have 6-inch mechanical joint with accessories.
10. Hydrant extensions shall be able to be installed without need for excavation.
11. A set of disassembly tools shall be supplied by the manufacturer at no cost to the Town of Winchester, with the acceptance of any hydrant that is not currently in the system.

D. Fittings. Shall be compact, ductile iron, mechanical joint, cement lined or epoxy coated where applicable. Mechanical joint nuts and bolts shall be high strength, low alloy steel or equivalent.

E. Couplings. Shall be made from ductile iron or high quality gray iron. Gaskets shall be designed for use in water applications.

F. Tapping Sleeve and Valve. Tapping sleeves shall be a mechanical joint with outlet flange. Must be of cast, ductile iron or a full bodied stainless steel and must include a test plug so that valve and sleeve may be pressure tested before a tap is made. Rated working pressure for tapping sleeves up to and including 12 inch shall be 200 PSI, larger than 12 inches to be rated at 150 PSI.

7.0 CONSTRUCTION METHODS

A. Trenches shall be excavated to the necessary width and depth for proper installation of pipe and shall have vertical sides. Minimum widths of trenches shall provide at least 12-inch clearance between the sides of the trench and the outside face of the pipe. The depth of trench shall be 6 inches below the bottom of the pipe barrel.

B. If the existing soil below the bottom of the pipe barrel bedding depth is found to be unsuitable, the Water Department may order extra excavation below the bedding grade.

C. Whenever unstable soil that is incapable of properly supporting the pipe or structure is encountered below the bottom of a structure, as determined by the Water Department, such soil shall be removed to the full width of the trench and refilled with bank run gravel containing no stone over 4 inches in diameter, placed in 12 inch lifts and thoroughly compacted. Crushed rock or screened gravel may also be used to replace unstable soils. No excavation shall be made below the limits of the excavation called for on the plans or herein specified without prior approval by the Water Department.

D. Pipe and fittings shall be laid accurately to the lines and grades indicated on the drawings. The deflection of alignment at a joint shall not exceed the appropriate permissible deflection as specified in the following tabulation:

Pipe Deflection Allowances Maximum permissible deflection for full-length pipe*

* Maximum permissible deflection for 18-foot length, maximum permissible deflections for other lengths shall be in proportion to their length as compared to 18-foot long pipe.

Size of pipe	Push-on Joint	Mechanical Joint
4 inches	10 inches	16 inches
6 inches	10 inches	14 inches
8 inches	10 inches	10 inches
10 inches	10 inches	10 inches
12 inches	10 inches	10 inches
16 inches	7 inches	8 inches

NOTE: The above-tabulated allowances are more stringent than those allowed by pipe manufactures and are the values recommended by the AWWA.

E. At all times when pipe laying is not actually in progress, the opened ends of the pipe shall be closed by temporary watertight plugs or by other approved means. If water is in the trench when work is resumed, the plug shall not be removed until all danger of water entering the pipe has been eliminated.

F. Push-on joints shall be made up by first inserting the gasket into the groove of the bell, then apply a thin film of special non-toxic gasket lubricant over the inner surface of the gasket that will be in contact with the spigot end of the pipe. The chamfered end of the plain pipe shall be inserted into the gasket and then forced past it until it seats against the bottom of the socket.

G. With mechanical joints, surfaces against which the gasket will come in contact shall be thoroughly cleaned prior to assembly. Tightening of the bolts shall be done in a diametrical opposite pattern to ensure equal pressure has been applied to the fitting and mechanical joint.

H. Prior to installation of sleeve-type coupling the pipe ends shall be cleaned thoroughly for a distance of 8 inches. A follower and gasket in that order shall be slipped over each pipe to a distance of about 6 inches from the end, and the middle ring shall be placed on the already laid pipe end until it is properly centered over the joint. The other pipe end shall be inserted into the middle ring and brought to proper position in relation to the pipe already laid. The gaskets and followers shall then be pressed evenly and firmly into the middle ring flares. After the bolts have been inserted and all nuts have been made up finger tight, diametrically opposite nuts shall be progressively and uniformly tightened all around the joint.

I. If effective sealing of the joint is not attained, disassembly of the joint is required and thoroughly cleaned and reassembled. Bolts shall not be over stressed to tighten a leaky joint or fitting.

J. All valves, fittings and appurtenances shall be set and jointed as indicated on the drawings. Where indicated or necessary to prevent joints or sleeve couplings from pulling apart under pressure, suitable socket pipe clamps, tie rods, and bridles shall be provided. Bridles and tie rods shall be at least 3/4 inch in diameter except where they replace flange bolts of smaller size in which case they shall be fitted with a nut on each side of the pair of flanges.

K. The Contractor shall furnish and install all support necessary to hold the piping and appurtenances in a firm substantial manner at the lines and grades indicated on the drawings.

L. All fittings shall be backed up with concrete thrust blocks as indicated on the standard details. Where adequate backing cannot be obtained, suitable joint restraint shall be used. Megalugs or equivalent restraints shall be used on all new mains where pipe meets fittings.

M. Processed sand or 1/2 inch stone shall be used for bedding pipes and fittings. A depth of 6 inches of sand is required below pipes in a ledge or rock zone. Processed sand or stone bedding shall be placed to the full width of the trench and continue to an elevation of 12 inches above the top of the water main and fittings. Above this point backfill shall be suitable material from excavation, or if directed by the Water Department, it may be required to use bank run gravel containing no stones over 4 inches. This material shall be thoroughly compacted in 12-inch lifts to the top of the trench.

N. Minimum cover over water mains shall be 5 feet, maximum cover will be 7 feet unless approved or directed by the Water Department. All depth measurements shall be from the top of the piping being installed to the finished grade.

O. Except where otherwise directed, 2 feet minimum horizontal and vertical clearance shall be provided between the exterior of the water mains and other structures. Where a new main passes under or over utilities, it shall cross without use of bends.

8.0 DRAWINGS

A. Prior to preparation of drawings pertaining to water main construction, a pre-design conference with the Water Department, Engineer, Contractor, and other interested parties is strongly recommended.

B. A copy of design drawings shall be provided to the Water Department for review and approval prior to commencement of construction.

C. Drawings shall show:

Location within the street layout, easement lines and or property lines.

Piping, fittings, gate valves, hydrants, thrust blocking, corporations and curb stops

Location of all other existing or proposed utilities.

Elevations and topographical data

Detail cuts of both typical and unusual situations

Materials of construction

D. As-built drawings. Upon completion of water main construction a mylar and paper blueprint shall be prepared and provided to the Water Department. In addition to the data required to be shown, the drawing shall also show 3 tie dimensions to all gate valves and curb stops.

9.0 PRESSURE and LEAKAGE TEST

A. This test shall be performed in accordance with AWWA most recent recommended procedure. Water Department personnel must witness such testing. All services and mains larger than 2" shall be tested.

B. The pressure and leakage test shall consist of first raising the water pressure to a pressure equal to the rating of the pipe or 150psi which ever is highest. While maintaining this pressure, the Contractor shall make a leakage test by metering the flow of water into the pipe. Current AWWA recommended procedures should be followed.

C. If the section fails to pass the pressure and leakage test, the Contractor shall do everything necessary to locate, uncover, and repair or replace the defective pipe, fitting or joint, all at his own expense and without extension of time for completion of the work. Additional tests and repairs shall be made until the section passes the specified test.

D. If, in the judgment of the Water Department, it is impracticable to follow the foregoing procedure exactly for any reason, modifications in the procedure shall be made as required and approved, but in any event the Contractor shall be responsible for the ultimate tightness of the line within the above leakage and pressure requirements.

10.0 DISINFECTION of MAINS

A. The Contractor shall disinfect all lines carrying potable water.

B. The Contractor shall furnish all equipment and materials necessary to do the work of disinfecting, and shall perform the work in accordance with the procedure outlined in the AWWA Standard for Disinfecting Water Mains.

C. The dosage shall be not less than 10 ppm after a contact period of not less than 24 hours. Calculation of the required dosage shall be submitted for approval to the Water Department prior to chlorine injection. Injected chlorine shall remain in the mains less than 72 hours.

D. After treatment, the main shall be flushed with clean water until the residual chlorine content does not exceed 0.2 ppm.

E. During the disinfection period, care shall be exercised to prevent contamination of water in the existing mains. No valves shall be operated without the knowledge and permission of the Water Department.

F. The Contractor shall dispose of the water used in disinfecting and flushing in an approved manner.

G. The Contractor shall provide, as an affidavit of compliance, bacteriological test results certifying the water sampled from the water main to be free from coliform.